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SPACE OPERATIONS CONTROL CENTER

SATELLITE SITUATION REPORT

VOL. 4, NO. 13

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JULY 15, 1964

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GODDARD SPACE FLIGHT CENTER

GREENBELT, MD.



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SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 4 NO. 13

JULY 15, 1964

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED BY
THE GODDARD SPACE FLIGHT CENTER, NORAD, AND SMITHSONIAN ASTROPHYSICAL
OBSERVATORY AS OF 1200Z ON JULY 15, 1964.

			OBJECTS IN ORBIT						
OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1958 LAUNCHES									
ALPHA 1	EXPLORER 1	004	US	1 FEB	104.6	33.18	1604	340	
BETA 1	ROCKET BODY	016	US	17 MAR	138.4	34.28	4322	647	
BETA 2	VANGUARD 1	005	US	17 MAR	134.0	34.25	3958	630	108.012 &
1959 LAUNCHES									
ALPHA 1	VANGUARD 2	011	US	17 FEB	125.4	32.87	3284	557	
ALPHA 2	ROCKET BODY	012	US	17 FEB	129.7	32.85	3662	551	
ETA 1	VANGUARD 3	020	US	18 SEP	129.8	33.34	3723	506	
MU 1	LUNIK 1	112	USSR	2 JAN	HELIOCENTRIC ORBIT				
NU 1	PIONEER 4	113	US	3 MAR	HELIOCENTRIC ORBIT				
IOTA 1	EXPLORER 7	022	US	13 OCT	101.2	50.31	1074	551	
IOTA 2	ROCKET BODY	023	US	13 OCT	100.9	50.29	1052	551	
1960 LAUNCHES									
ALPHA 1	PIONEER 5	027	US	11 MAR	HELIOCENTRIC ORBIT				
BETA 1	ROCKET BODY	028	US	1 APR	99.1	48.40	737	694	
BETA 2	TIROS 1	029	US	1 APR	99.2	48.38	742	697	
BETA 3	NONE	101	US	1 APR	97.9	48.49	704	609	
BETA 4	NONE	115	US	1 APR	99.9	48.16	799	706	
GAMMA 2	TRANSIT 1B	031	US	13 APR	93.9	51.22	580	353	
GAMMA 4	NONE	099	US	13 APR	96.7	51.27	735	470	
EPSILON 3	NONE	036	USSR	15 MAY	91.1	64.98	397	265	
ZETA 1	MIDAS 2	043	US	24 MAY	94.3	33.01	502	465	
ETA 1	TRANSIT 2A	045	US	22 JUN	101.6	66.72	1062	610	
ETA 2	GREB	046	US	22 JUN	101.6	66.71	1058	611	
ETA 3	ROCKET BODY	047	US	22 JUN	101.4	66.71	1045	606	

<u>OBJECTS IN ORBIT</u>									
<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>NODAL PERIOD</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1960 LAUNCHES (CONT'D)									
IOTA 1	ECHO I	049	US	12 AUG	114.2	47.28	1875	963	
IOTA 2	ROCKET BODY	050	US	12 AUG	118.1	47.24	1679	1508	
IOTA 3	METAL OBJECT	051	US	12 AUG	118.2	47.24	1679	1524	
IOTA 4	METAL OBJECT	052	US	12 AUG	CURRENT ELEMENTS NOT MAINTAINED				
IOTA 5	METAL OBJECT	053	US	12 AUG	118.4	47.30	1696	1524	
NU 1	COURIER 1B	058	US	4 OCT	107.0	28.31	1212	963	
NU 2	ROCKET BODY	059	US	4 OCT	106.6	28.27	1205	926	
XI 1	EXPLORER 8	060	US	3 NOV	112.3	49.94	2247	419	
XI 2	ROCKET BODY	062	US	3 NOV	111.9	50.00	2209	417	
XI 3	NONE	069	US	3 NOV	109.3	49.38	1986	397	
XI 4	NONE	105	US	3 NOV	110.6	50.50	2084	421	
PI 1	TIROS 2	063	US	23 NOV	98.2	48.52	735	613	
PI 2	ROCKET BODY	064	US	23 NOV	98.1	48.52	716	619	
PI 3	NONE	074	US	23 NOV	98.2	48.53	708	632	
PI 4	NONE	075	US	23 NOV	98.3	48.50	730	623	
1961 LAUNCHES									
ALPHA 1	SAMOS 2	070	US	31 JAN	94.7	97.40	543	469	
ALPHA 2	METAL OBJECT	079	US	31 JAN	94.6	97.41	536	469	
GAMMA 1	VENUS PROBE	080	USSR	12 FEB	HELIOCENTRIC ORBIT				
DELTA 2	ROCKET BODY	082	US	16 FEB	118.5	38.84	2592	636	
DELTA 3	NONE	085	US	16 FEB	CURRENT ELEMENTS NOT MAINTAINED				
KAPPA 1	EXPLORER 10	098	US	25 MAR	POSITION UNCERTAIN				
NU 1	EXPLORER 11	107	US	27 APR	108.0	28.78	1783	477	
OMICRON 1	TRANSIT 4A	116	US	29 JUN	103.8	66.83	1002	877	150;400
OMICRON 2	INJUN-SR-3	117	US	29 JUN	103.8	66.83	1003	877	
OMICRON 3-206	METAL OBJECTS		US	29 JUN					
RHO 1	TIROS 3	162	US	12 JUL	100.4	47.90	823	731	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	NODAL PERIOD	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)	
1961 LAUNCHES (CONT'D)										
RHO 2	ROCKET BODY	165	US	12 JUL	100.3	47.90	813	735		
RHO 3	METAL OBJECT	166	US	12 JUL	98.8	47.94	796	610		
RHO 4	METAL OBJECT	167	US	12 JUL	102.0	47.85	930	776		
SIGMA 1	MIDAS 3	163	US	12 JUL	161.5	91.28	3522	3369		
SIGMA 3	METAL OBJECT	188	US	12 JUL	161.1	91.21	3560	3303		
SIGMA 4	METAL OBJECT	196	US	12 JUL	161.9	91.22	3579	3345		
UPSILON 1	EXPLORER 12	170	US	16 AUG	CURRENT ELEMENTS NOT MAINTAINED					
A DELTA 1	MIDAS 4	192	US	21 OCT	166.0	95.88	3730	3523		
A DELTA 3	METAL OBJECT	194	US	21 OCT	165.6	95.83	3722	3500		
A DELTA 4	METAL OBJECT	195	US	21 OCT	166.4	95.83	3774	3513		
A ETA 1	TRANSIT 4B	202	US	15 NOV	105.8	32.42	1100	958		
A ETA 2	TRAAC	205	US	15 NOV	105.8	32.41	1101	960		
A ETA 3	ROCKET BODY	204	US	15 NOV	105.6	32.43	1102	944		
1962 LAUNCHES										
ALPHA 1	RANGER 3	221	US	26 JAN	HELIOCENTRIC ORBIT					
ALPHA 2	ROCKET BODY	222	US	26 JAN	HELIOCENTRIC ORBIT					
BETA 1	TIROS 4	226	US	8 FEB	100.4	48.32	845	706		
BETA 2	ROCKET BODY	227	US	8 FEB	101.4	48.15	937	706		
BETA 3	METAL OBJECT	228	US	8 FEB	99.5	48.42	766	700		
BETA 4	METAL OBJECT	229	US	8 FEB	100.3	48.30	838	707		
ZETA 1	ORB.SOL.OBS. 1	255	US	7 MAR	96.0	32.83	598	537		
ZETA 2	ROCKET BODY	257	US	7 MAR	96.0	32.84	570	563		
KAPPA 1		271	US	9 APR	153.0	86.68	3410	2787		
KAPPA 3		273	US	9 APR	152.6	86.67	3365	2800		
KAPPA 4		274	US	9 APR	153.3	86.68	3425	2801		
MU 2	ROCKET BODY	282	US	23 APR	HELIOCENTRIC ORBIT					
OMICRON 1	ARIEL 1	285	US/UK	26 APR	100.5	53.87	1178	391	136.406	
OMICRON 2	ROCKET BODY	288	US/UK	26 APR	100.4	53.88	1172	387		

<u>OBJECTS IN ORBIT</u>					<u>OBJECTS IN ORBIT</u>			<u>OBJECTS IN ORBIT</u>		
<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>NODAL PERIOD</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>	
1962 LAUNCHES (CONT'D)										
A ALPHA 1	TIROS 5	309	US	19 JUN	100.5	58.11	965	597		
A ALPHA 2	ROCKET BODY	311	US	19 JUN	100.4	58.11	953	600		
A ALPHA 3	METAL OBJECT	312	US	19 JUN	101.7	58.22	1077	606		
A ALPHA 4	METAL OBJECT	313	US	19 JUN	99.1	58.00	850	581		
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.8	44.80	5643	944		
A EPSILON 2	ROCKET BODY	341	US	10 JUL	157.6	44.80	5632	942		
A OMICRON 1		369	US	23 AUG	99.5	98.69	855	620		
A OMICRON 2		370	US	23 AUG	98.2	98.65	753	599		
A OMICRON 3		378	US	23 AUG	100.8	98.71	976	619		
A OMICRON 4		388	US	23 AUG	99.5	98.69	851	623		
A RHO 1	MARINER	374	US	27 AUG	HELIOCENTRIC ORBIT					
A RHO 2	ROCKET BODY	375	US	27 AUG	HELIOCENTRIC ORBIT					
A UPSILON 1		385	US	1 SEP	91.0	82.79	384	266		
A PSI 1	TIROS 6	397	US	18 SEP	98.7	58.31	706	690		
A PSI 2	ROCKET BODY	398	US	18 SEP	98.7	58.31	702	688		
A PSI 3	METAL OBJECT	399	US	18 SEP	99.4	58.44	771	687		
A PSI 4	METAL OBJECT	400	US	18 SEP	98.0	58.21	694	636		
B ALPHA 1	ALOUETTE	424	CANADA	29 SEP	105.5	80.47	1037	999	\$136.590	
B ALPHA 2	ROCKET BODY	426	US	29 SEP	105.4	80.48	1031	999	\$136.077	
B ALPHA 3	METAL OBJECT	510	US	29 SEP	105.4	80.51	1025	1000		
B ALPHA 4	METAL OBJECT	511	US	29 SEP	105.5	80.43	1046	990		
B GAMMA 1	EXPLORER 14	432	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED					
B GAMMA 2#	ROCKET BODY	NNA	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED					
B ETA 1	RANGER 5	439	US	18 OCT	HELIOCENTRIC ORBIT					
B ETA 2	ROCKET BODY	440	US	18 OCT	HELIOCENTRIC ORBIT					
B KAPPA 1		444	US	27 OCT	133.1	71.41	4329	186		
B LAMBDA 1	EXPLORER 15	445	US	27 OCT	312.5	18.04	17433	307		

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>NODAL PERIOD</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
<u>1962 LAUNCHES (CONT'D)</u>									
B LAMBDA 2#	ROCKET BODY	NNA	US	27 OCT	INSUFFICIENT OBSERVATIONS				
B MU 1	ANNA 1B	446	US	31 OCT	107.9	50.16	1178	1081	162;324
B MU 2	ROCKET BODY	447	US	31 OCT	107.6	50.15	1175	1057	
B NU 3		450	USSR	1 NOV	HELIOCENTRIC ORBIT				
B TAU 1		502	US	13 DEC	110.1	70.36	2228	232	
B TAU 2		504	US	13 DEC	112.9	70.37	2481	237	
B TAU 4	INJUN 3	508	US	13 DEC	106.7	70.33	1915	231	
B TAU 5		513	US	13 DEC	109.1	70.35	2220	225	
B TAU 6		520	US	13 DEC	112.3	70.37	2419	242	
B UPSILON 1	RELAY 1	503	US	13 DEC	185.1	47.51	7445	1314	\$136.140
B UPSILON 2	ROCKET BODY	515	US	13 DEC	184.9	47.51	7425	1317	136.620
B CHI 1	EXPLORER 16	506	US	16 DEC	104.4	52.01	1202	727	
B PSI 1	TRANSIT 5A	509	US	19 DEC	99.1	90.63	738	694	
B PSI 2		514	US	19 DEC	97.7	90.76	727	574	
B PSI 3		519	US	19 DEC	99.1	90.64	733	698	
B PSI 4		523	US	19 DEC	100.2	90.48	839	700	
<u>1963 LAUNCHES</u>									
1963 03A		527	US	16 JAN	94.5	81.89	527	462	
1963 04A	SYNCOM 1	553	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 04B	ROCKET BODY	532	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 05A		533	US	19 FEB	97.7	100.49	795	504	
1963 05B		534	US	19 FEB	97.7	100.50	797	502	
1963 05C		535	US	19 FEB	96.9	100.49	746	477	
1963 05D		536	US	19 FEB	98.3	100.50	834	528	
1963 08B		566	USSR	2 APR	BARYCENTRIC ORBIT				
1963 09A	EXPLORER 17	564	US	3 APR	95.1	57.62	784	256	
1963 13A	TELSTAR 2	573	US	7 MAY	225.3	42.75	10814	958	136.050

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	NODAL PERIOD	INCLI - NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)									
1963 13B	ROCKET BODY	575	US	7 MAY	225.1	42.77	10797	958	150;400
1963 14A		574	US	9 MAY	166.4	87.31	3731	3560	
1963 14B		579	US	9 MAY	166.4	87.24	3802	3490	
1963 14C		608	US	9 MAY	166.4	87.37	3649	3642	
1963 14D		589	US	9 MAY	CURRENT ELEMENTS NOT MAINTAINED				
1963 14E		602	US	9 MAY	166.1	87.31	3644	3618	
1963 14F		628	US	9 MAY	166.8	87.36	3701	3621	
1963 14G		629	US	9 MAY	166.4	87.36	3653	3636	
1963 14H		702	US	9 MAY	166.4	87.09	3781	3496	
1963 17A		580	USSR	22 MAY	92.8	48.98	577	249	
1963 17C	582	USSR	22 MAY	94.1	49.19	621	322		
1963 22A	TIROS 7	594	US	16 JUN	99.7	90.01	760	731	136.234 136.921
1963 22B		603	US	16 JUN	99.7	90.00	755	735	
1963 22C		610	US	16 JUN	101.2	90.21	898	737	
1963 22D		611	US	16 JUN	98.1	89.82	774	569	
1963 24A		604	US	19 JUN	97.4	58.23	650	622	
1963 24B		ROCKET BODY	605	US	19 JUN	97.4	58.23	647	
1963 24C	606		US	19 JUN	97.9	58.38	682	633	
1963 24D	607		US	19 JUN	96.9	58.10	644	576	
1963 25B	614		US	27 JUN	132.4	82.11	4113	340	
1963 26A	RESEARCH SATELLITE FOR GEOPHYSICS	612	US	28 JUN	102.1	49.76	1295	418	
1963 27A		613	US	29 JUN	94.7	82.32	525	485	
1963 27B		615	US	29 JUN	93.0	82.30	428	420	
1963 30A		622	US	19 JUL	167.8	88.42	3770	3635	
1963 30B		635	US	19 JUL	167.8	88.40	3736	3669	
1963 30C		630	US	19 JUL	167.5	88.40	3711	3665	
1963 30D		624	US	19 JUL	167.9	88.34	4159	3249	
1963 30E		631	US	19 JUL	168.3	88.47	3772	3667	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>NODAL PERIOD</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 31A	SYNCOM 2	634	US	26 JUL	1438.1	32.54	35863	35788	\$136.980; \$136.468\$1814.069; \$1815.794\$1820.177
1963 31B	ROCKET BODY	625	US	26 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1963 38A		669	US	28 SEP	107.1	89.91	1106	1081	
1963 38B		670	US	28 SEP	107.4	89.90	1137	1075	
1963 38C		671	US	28 SEP	107.3	89.91	1134	1076	136.652
1963 38D		672	US	28 SEP	107.3	89.91	1130	1080	
1963 38E		745	US	28 SEP	107.1	89.92	1111	1075	
1963 39A		674	US	17 OCT	6486.0	38.19	116417	101242	
1963 39B		675	US	17 OCT	2319.4	35.90	102372	953	
1963 39C		692	US	17 OCT	6513.9	37.21	116181	102137	
1963 42B		682	US	29 OCT	92.4	89.98	500	284	
1963 43A	POLYOT	683	USSR	1 NOV	102.4	58.93	1406	336	
1963 43B		684	USSR	1 NOV	101.2	58.61	1299	329	
1963 43C		685	USSR	1 NOV	99.2	58.96	1138	300	
1963 43D		686	USSR	1 NOV	101.0	49.85	1270	345	
1963 46A	EXPLORER 18	693	US	27 NOV	5599.5	35.29	194077	2073	136.112
1963 47A	CENTAUR 2	694	US	27 NOV	107.8	30.36	1785	464	
1963 47B		696	US	27 NOV	107.3	30.07	1623	574	
1963 47C		697	US	27 NOV	107.5	30.06	1637	581	
1963 47D		698	US	27 NOV	108.0	29.91	1655	613	
1963 47E		699	US	27 NOV	108.7	30.39	1739	586	
1963 47F		700	US	27 NOV	108.7	30.47	1752	573	
1963 47G		701	US	27 NOV	107.8	30.00	1641	609	
1963 47H		739	US	27 NOV	107.7	30.40	1668	570	
1963 49A		703	US	5 DEC	106.8	89.96	1095	1064	
1963 49B		704	US	5 DEC	107.1	89.97	1125	1065	150;400

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<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>NODAL PERIOD</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 49C		705	US	5 DEC	107.1	89.96	1126	1063	54;162;324; 648
1963 49D		706	US	5 DEC	107.1	89.96	1128	1056	
1963 49E		715	US	5 DEC	107.1	89.98	1120	1068	
1963 49F		753	US	5 DEC	107.1	89.97	1144	1045	
1963 53A	EXPLORER 19	714	US	19 DEC	115.6	78.60	2368	599	
1963 53B		721	US	19 DEC	115.8	78.61	2393	591	
1963 53C		722	US	19 DEC	115.8	78.63	2450	537	
1963 53D		723	US	19 DEC	115.9	78.61	2403	593	
1963 53E		724	US	19 DEC	115.9	78.64	2356	605	
1963 53F		725	US	19 DEC	115.9	78.62	2399	592	
1963 53G		726	US	19 DEC	115.8	78.59	2399	589	
1963 53H		732	US	19 DEC	115.8	78.60	2391	597	136.233
1963 54A	TIROS 8	716	US	21 DEC	99.4	58.50	753	703	136.923
1963 54B		717	US	21 DEC	99.3	58.50	743	708	
1963 54C		720	US	21 DEC	101.1	58.49	921	698	
1963 54D		736	US	21 DEC	97.7	58.51	712	584	
1963 55B		719	US	21 DEC	90.8	64.53	346	281	
1964 LAUNCHES									
1964 1A		727	US	11 JAN	103.4	69.92	932	914	
1964 1B	GGSE	728	US	11 JAN	103.4	69.92	940	905	
1964 1C	EGRS	729	US	11 JAN	103.4	69.91	933	911	136.803
1964 1D	SOLAR RADIATION	730	US	11 JAN	103.5	69.92	934	912	136.886
1964 1E		731	US	11 JAN	103.5	69.92	933	913	
1964 2A		733	US	19 JAN	101.3	99.06	852	791	
1964 2B		734	US	19 JAN	101.3	99.05	836	803	
1964 2C		735	US	19 JAN	101.3	99.07	832	812	
1964 3A	RELAY 2	737	US	21 JAN	194.7	46.34	7416	2083	136.141 \$136.621

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<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>NODAL PERIOD</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 03B		738	US	21 JAN	194.8	46.47	7377	2128	
1964 04A	ECHO 2	740	US	25 JAN	108.7	81.48	1318	1018	136.021; 136.170
1964 04B		741	US	25 JAN	108.9	81.51	1310	1046	
1964 04C		742	US	25 JAN	108.8	81.48	1307	1042	
1964 04D		743	US	25 JAN	108.8	81.54	1310	1038	
1964 04E		749	US	25 JAN	99.2	81.59	1143	298	
1964 05A	SATURN 5	744	US	29 JAN	94.2	31.45	696	255	
1964 06A	ELEKTRON 1	746	USSR	30 JAN	169.3	60.86	7120	400	
1964 06B	ELEKTRON 2	748	USSR	30 JAN	1356.3	60.03	67839	583	
1964 06C		750	USSR	30 JAN	168.2	60.85	7034	397	
1964 06D		751	USSR	30 JAN	1384.1	60.07	68916	611	
1964 10A	COSMOS 25	757	USSR	27 FEB	91.3	49.03	420	254	
1964 11A		759	US	28 FEB	94.6	82.07	510	495	
1964 11B		760	US	28 FEB	94.3	82.06	494	478	
1964 11C		761	US	28 FEB	94.4	82.09	500	480	
1964 13A	COSMOS 26	766	USSR	18 MAR	90.2	48.97	312	249	
1964 15A	ARIEL 2	771	US/UK	27 MAR	101.1	51.65	1338	283	136.558
1964 15B		775	US/UK	27 MAR	100.9	51.64	1317	288	
1964 16D		785	USSR	2 APR	HELIOCENTRIC ORBIT				
1964 19B	POLYOT 2	784	USSR	12 APR	92.2	58.06	462	307	
1964 26A		801	US	4 JUN	103.1	90.50	947	864	
1964 26B		805	US	4 JUN	103.9	90.19	984	903	
1964 26C		806	US	4 JUN	102.3	90.85	955	784	
1964 26D		809	US	4 JUN	103.1	90.40	941	868	
1964 28A	COSMOS 31	803	USSR	6 JUN	91.3	48.97	449	220	
1964 28B		804	USSR	6 JUN	90.8	48.97	398	217	
1964 30A		811	US	13 JUN	91.6	115.00	358	352	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>NODAL PERIOD</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT 'D)									
1964 30B		820	US	13 JUN	91.9	114.98	347	347	
1964 31A		812	US	18 JUN	101.6	99.82	837	832	
1964 31B		813	US	18 JUN	101.6	99.83	838	832	
1964 31C		815	US	18 JUN	101.6	99.85	840	827	
1964 32A		814	US	19 JUN	CURRENT ELEMENTS NOT MAINTAINED				
1964 35A		824	US	2 JUL	94.9	82.08	530	499	
1964 36B		826	US	6 JUL	91.4	92.99	393	296	
1964 36C		827	US	6 JUL	89.9	93.00	226	226	
1964 37A		828	US	10 JUL	90.9	84.99	454	179	
1964 38A	ELECTRON 3	829	USSR	10 JUL	168.2	60.80	7026	403	
1964 38B	ELECTRON 4	830	USSR	10 JUL	1313.9	60.80	66260	458	
1964 38C		831	USSR	10 JUL	168.6	60.82	7066	397	
1964 38D		832	USSR	10 JUL	1341.3	60.77	67283	537	
1964 39A	COSMOS 35	833	USSR	15 JUL	89.3	51.25	253	218	
1964 39B		834	USSR	15 JUL	89.5	41.32	277	217	

PLEASE ADD THE FOLLOWING TO THE DECAY OBJECTS LIST.

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1964 29B		808	USSR	10 JUN	14 JUL 64
1964 32B		821	US	19 JUN	2 JUL 64
1964 33A	COSMOS 33	816	USSR	23 JUN	1 JUL 64
1964 33B		817	USSR	23 JUN	10 JUL 64
1964 34A	COSMOS 34	822	USSR	1 JUL	9 JUL 64
1964 34B		823	USSR	1 JUL	15 JUL 64
1964 36A		825	US	6 JUL	8 JUL 64

- * APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.
 ** TWO HUNDRED AND FOUR METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH
 1961 OMICRON 1 AND 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE
 FOUND IN THE DECAYED OBJECTS LISTS.
 \$ TRANSMITTING ON COMMAND ONLY.
 & TRANSMITTING WHEN IN SUNLIGHT ONLY.
 # NO CATALOGUE NUMBER ASSIGNED.